Model Scenario

This section presents an example public health scenario to show how the classes within the Public Health Conceptual Data Model correspond to data that are encountered over and over in the course of public health work. The scenario is presented in the left-hand column, and it is reinterpreted in the right-hand column in terms of concepts from the PHCDM.

Meningitis Outbreak Scenario

Scenario Text	Scenario Text Reinterpreted in PHCDM Terms
On December 14 the Health Department for County Z in the northern part of State F was notified of a 2 year-old girl who had presented to Hospital H a day earlier with fever, nausea, vomiting, and a petechial rash which was suspected to be meningococcal sepsis.	A Notification, a subtype of Health-related Activity, was recorded on December 14. Two Parties, a Person (the girl) and a Formal Organization (the hospital), are related to the Notification. The girl is related to the Notification as Target Participant. The hospital is related as an Actor Participant. Four Observations (fever, nausea, vomiting, and petechial rash), which are a subtype of Health-related Activity, are linked to the Notification. An additional Observation (suspected meningococcal sepsis) is recorded and linked to the Notification.
On the same day, a blood specimen was drawn. The specimen that was cultured from this girl grew *Neisseria meningitidis*, confirming the suspected diagnosis.	A Specimen, a subtype of Material, was drawn. An Observation (presence of *Neisseria meningitidis*) based upon testing the Specimen leads to a further Observation (confirmation of the suspected diagnosis).

Scenario Text	Scenario Text Reinterpreted in PHCDM Terms
The Local Health Department consulted with the State Health Department regarding recommendations for antimicrobial chemoprophylaxis of close contacts of sporadic cases of meningococcal disease.	The recommended Intervention (antimicrobial chemoprophylaxis), a subtype of Health-related Activity, is based upon another Health-related Activity (consultation) between two Formal Organizations (the Local and State Health Departments). These Health-related Activities are linked by an Activity Relationship.
Based on this consultation, rifampin or ceftriaxone, in recommended dosages and schedules, was administered to members within the girl's household and also to other attendees and staff in the day care center she attended.	An Intervention (rifampin or ceftriaxone) is administered to several Parties that are Informal Organizations (members of the girl's household and other attendees and staff at the day care center she attended). The attendees and staff members as well as the girl herself are related to a Formal Organization (the day care center). Each relationship is a Party Relationship with the day care center.
On December 15, the Health Department was notified of an 18 year-old female who had been admitted to the hospital the day before with fever, headache, and a stiff neck.	Another Notification was recorded on December 15. A Person (18 year-old female) who was the Target of several Observations (the history or presence of fever, headache, and stiff neck) is also the Target of another Health-related Activity (hospital admission). The Observations have Activity Relationships that link them to the admission.
Cultures of cerebrospinal fluid grew *N. meningitidis*.	An Observation (presence of *N. meningitidis*) was recorded after performing a Health-related Activity (culturing) on a Specimen (cerebrospinal fluid).

Scenario Text	Scenario Text Reinterpreted in PHCDM Terms
Over the next 2 weeks, five more cases occurred with signs of meningitis.	Several Cases, subtypes of Observations, were recorded.
In three of those cases, CSF cultures were positive for *N. meningitidis*; in the other two, latex agglutination tests were positive though cultures were negative. These cases occurred in persons 4 to 18 years old.	In each Case, Health-related Activities (culturing and testing) on Specimens (cerebrospinal fluid) were carried out. Observations related to the tests were recorded.
The occurrence of multiple cases prompted discussions among the Local Health Department, the State Health Department, and CDC personnel.	Formal Organizations (Local and State Health Department, CDC) were involved in consultation and discussion.
Available *N. meningitidis* isolates from the cases with positive cultures were forwarded to the State F Public Health Laboratory where they were shown to be serogroup C.	Specimens (*N. meningitidis* isolates) were forwarded to a Formal Organization (State F Public Health Laboratory). At the laboratory, Health-related Activities (tests) were performed and generated Observations (the isolates are serogroup C).
Based on the conclusion that a cluster of meningococcal diseases due to serogroup C *N. meningitidis* was occurring in Towns A and B, a decision was made to vaccinate.	Public health authorities confirmed the existence of an Outbreak (cluster of meningococcal cases due to serogroup C *N. meningitidis*) in a particular Location (Towns A and B) and decided on an Intervention (vaccination).

Scenario Text	Scenario Text Reinterpreted in PHCDM Terms
Between December 29 and January 1, a vaccination campaign was initiated targeting residents of Towns A and B (total population 33,000) between the ages of 2 and 22. Approximately 13,500 persons were vaccinated with polyvalent meningococcal polysaccharide vaccine.	A large scale Intervention (vaccination campaign) was initiated. The Target for the Intervention was an Informal Organization (residents of Towns A and B between the ages of 2 and 22). Within this context, many individual Interventions (vaccination with polyvalent meningococcal polysaccharide vaccine) were performed.